

Identification of an Effective Sex Pheromone Lure for the Fir Coneworm, *Dioryctria abietivorella*, and Demonstration of its Efficacy in Seed Orchards (SPM 0002)

Robb Bennett (compiled from reports submitted by Gary Grant and Jocelyn Millar)

Canadian Forest Service and University of California (Riverside) researchers led the second year of this project with collaboration from the B.C. Ministry of Forests. Primary objectives of this work are to:

- identify the sex pheromone of the fir coneworm and
- develop the pheromone as a tool for sampling fir coneworm populations and monitoring coneworm phenology in seed orchards.

Very significant progress was made in 2004/05. Problems identified in 2003/04 field and lab work with pheromone components were resolved. Exhaustive lab bioassays showed that the standard commercial preparation of one of the pheromone components was isomerically impure. Lab bioassays and field trials allowed identification of a previously unknown component of the fir coneworm sex pheromone. The new component was successfully synthesized and subsequently field-tested in conjunction with the two previously identified (and now stereoisomerically pure) components of the sex pheromone. For the first time, large numbers of male coneworm moths were captured. Results indicated that one of the previously identified compounds is actually inhibitory and that the ratio of the remaining two compounds in the pheromone blend is critical. In 2005/06, the final year of this project, simple synthesis techniques for the pheromone components will be developed, and field trials will develop the pheromone blend for operational field use.

Judith McDowell 4/11/05 12:18 PM

Deleted: SPM 0002

Judith McDowell 4/11/05 12:24 PM

Formatted

Judith McDowell 4/11/05 12:19 PM

Deleted: work

Bennett 4/11/05 2:23 PM

Deleted: a blended